

a¹⁴

--In this perspective of improving viral safety, an alternative construction was prepared in which the GAG of FB29 is cut at the unique AhaIII (or isoDraI) site at position 1031 (SEQ ID NO:16); only a quarter of the GAG sequences are then conserved. The cut generated by AhaIII having blunt ends as for PvuII used for the cloning of FOCH29, the construction was made exactly superposable, the cloning upstream not being modified; downstream, the blunted ended SmaI site of the polylinker of pUC19 was used.--

In the Claims

Please cancel Claims 2-26 without prejudice or disclaimer of the subject matter contained therein.

Please add and consider new claims 27-46.

00070597-100407

27. (New) A retroviral vector comprising an isolated nucleotide sequence comprising: a 5' long terminal repeat of Friend Murine Leukemia Virus, a primer binding site of Friend Murine Leukemia virus, a packaging sequence of Friend Murine Leukemia Virus, and a 3' Long terminal repeat of a Friend Murine Leukemia Virus, and at least one exogenous nucleotide sequence encoding a polypeptide operably linked to the isolated nucleotide sequence, wherein the isolated nucleotide sequence provides for transfer and integration of the exogenous nucleotide sequence in a host cell.

Q¹⁵

28. (New) The retroviral vector of claim 27, wherein the exogenous nucleotide sequence is located between the 5' and the 3' long terminal repeats.

29. (New) The retroviral vector of claim 27, wherein the exogenous nucleotide sequence encodes a selectable marker gene.

30. (New) The retroviral vector of claim 27, wherein the exogenous nucleotide sequence encodes a gene selected from the group of genes encoding HIV retroviral antigens; cytokines, GP170, metallothionine IIA, FACC, beta galactosidase, PLP, tumor necrosis factor, and tissue inhibitor of metalloproteinases (TIMP).

31. (New) The retroviral vector according to claim 27, wherein the at least one exogenous nucleotide sequence comprises an exogenous promoter to provide for expression of the gene.

32. (New) The retroviral vector according to claim 31, wherein the promoter is selected from the group of promoters for epidermal growth factor receptor and the promoter for phosphoglycerate kinase enzyme.

Q15 33. (New) The retroviral vector according to claim 27, wherein the host cell is selected from the group of mammalian cell, dog cell and human cell.

34. (New) A self inactivating retroviral vector comprising: an isolated nucleotide sequence comprising a 5' long terminal repeat from Friend Murine Leukemia Virus, a primer binding site from Friend Murine Leukemia Virus, a packaging sequence from Friend Murine Leukemia Virus and a 3' long terminal repeat of Friend Murine Leukemia Virus, wherein the 3' long terminal repeat has a deletion of the nucleotide sequences encoding viral promoter and enhancer sequences, and wherein the 3' long terminal repeat has the nucleotide sequence of the restriction fragment of BamH1-Bgl II of pFOCH29 with a deletion of the nucleotide sequence of restriction fragment EspI-BssHII.

35. (New) A self inactivating retroviral vector comprising: an isolated nucleotide sequence comprising a 5' long terminal repeat from Friend Murine Leukemia Virus, a primer binding site from Friend Murine Leukemia Virus, a packaging sequence from Friend Murine Leukemia Virus, a 3' long terminal repeat of Friend Murine Leukemia Virus, wherein the 3' long terminal repeat has a deletion of the nucleotide sequences encoding viral promoter and enhancer sequences, and wherein the 3' long terminal repeat has the nucleotide sequence of the restriction fragment of BamH1-Bgl II of pFOCH29 with a deletion of the nucleotide sequence of restriction fragment EcoRV-BssHII of pFOCH29.

36. (New) A retroviral vector comprising: an isolated nucleotide sequence comprising a 5' long terminal repeat of Friend Murine Leukemia Virus strain FB29, a primer binding site of Friend Murine Leukemia Virus strain FB29, a packaging sequence of Friend Murine Leukemia Virus strain FB29 and a 3' long terminal repeat of Friend Murine Leukemia Virus strain FB29, wherein the isolated nucleotide sequence lacks a nucleotide sequence encoding a functional envelope protein of Friend Murine Leukemia Virus strain FB29; and wherein the isolated nucleotide sequence is operably linked to at least one exogenous nucleotide sequence encoding a polypeptide, wherein the isolated nucleotide sequence provides for transfer and integration of the at least one exogenous nucleotide sequence in a host cell.

37. (New) The retroviral vector according to claim 36, wherein the vector has a titer of about 10^4 PFU per ml or greater.

38. (New) A host cell transformed with the retroviral vector of claim 27.

39. (New) A host cell transformed with the retroviral vector of claim 36.

40. (New) A host cell transformed with the retroviral vector of claim 35.

41. (New) A host cell transformed with the retroviral vector of claim 34.

42. (New) A process for expression of an exogenous nucleotide sequence encoding a polypeptide in a host cell comprising:

- a) growing the host cells in *in vitro* culture;
- b) contacting the host cells with the retroviral vector according to claim 27, claim 34, claim 35, or claim 36; and
- c) detecting the expression of the exogenous nucleotide sequence encoding a polypeptide in the host cells.

43. (New) The process according to claim 42, further comprising maintaining the transfected cells in culture.

44. (New) A process for expression of an exogenous nucleotide sequence encoding a polypeptide in an animal comprising:

- a) isolating and culturing a host cell type from the animal;
- b) transfecting the host cell type with the retroviral vector according to claim 27, claim 34, claim 35, or claim 36;
- c) selecting the transfected host cell types expressing the exogenous nucleotide sequence encoding a polypeptide; and
- d) reintroducing the transfected host cell types expressing the exogenous nucleotide sequence encoding a polypeptide into the animal.

45. (New) A retroviral vector comprising an isolated nucleotide sequence comprising a 5' long terminal repeat of Friend Murine Leukemia Virus, a primer binding site of Friend Murine Leukemia Virus, a packaging sequence of Friend Murine Leukemia Virus, and a 3' long terminal repeat of Friend Murine Leukemia Virus, wherein the isolated nucleotide sequence lacks a nucleotide sequence encoding a functional envelope protein of Friend Murine Leukemia Virus strain FB29; and wherein said 5' long terminal repeat, primer binding site, and packaging sequence are encoded by the nucleotide sequence of SEQ ID NO. 11, and wherein the 3' long terminal repeat has the nucleotide sequence of the restriction fragment BamHI- Bgl II of pFOCH29 with a deletion of the nucleotide sequence of restriction fragment EspI-BssH11.

46. (New) A retroviral vector comprising an isolated nucleotide sequence comprising a 5' long terminal repeat of Friend Murine Leukemia Virus, a primer binding site of Friend Murine Leukemia Virus, a packaging sequence of Friend Murine Leukemia Virus, and a 3' long terminal repeat of Friend Murine Leukemia Virus, wherein the isolated nucleotide sequence lacks a nucleotide sequence encoding a functional env protein of Friend Murine Leukemia Virus strain FB29, and wherein the 5' long terminal repeat, primer binding site and packaging sequence of Friend Murine Leukemia Virus are

encoded by the nucleotide sequence of SEQ ID NO: 11, and wherein the 3' long terminal repeat has the nucleotide sequence of the restriction fragment of BamHI-Bgl II of pFOCH29 with a deletion of the nucleotide sequence of restriction fragment EcoRV-BssHII.

Q15

09970597.100404